

Application Serial No. 09/786,985

Atty. Docket No. 025219-317

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS

1. (Previously Presented) A method for producing insulating materials having improved resistance to thermal ageing, characterized in that it comprises the steps consisting of :

-dissolving at least one conducting polymer in an organic solvent, so as to form an impregnating solution,

-impregnating granules, formed of an insulating polymer or of a mixture of insulating polymers, with said impregnating solution,

-evaporating the solvent so as to obtain granules of insulating polymer impregnated with a conducting polymer,

-drying said granules,

-extruding or hot mixing said granules to form a homogeneous mixture, wherein said insulating material shows no heterogeneity on a scale of 0.1 μm as observed under scanning electron microscopy and wherein the conducting polymer represent 10 to 5000 ppm of the insulating materials having improved resistance to thermal ageing.

2. (Previously Presented) The method according to claim 1, characterized in that the impregnation of the granules is made by dipping the latter in the impregnating solution.

3. (Previously Presented) The method according to claim 1, characterized in that the insulating polymer is a thermoplastic resin selected from the group consisting of acrylic, styrene, vinyl resins, cellulose resins, polyolefins, fluorine-containing polymers, polyethers, polyimides, polycarbonates, polyurethanes, silicones, and mixtures of homopolymers and copolymers thereof.

4. (Previously Presented) The method according to claim 1, characterized in that the insulating polymer is selected from the group consisting of polyethylene,

Application Serial No. 09/786,985

Atty. Docket No. 025219-317

low density polyethylene, high density polyethylene, linear low density polyethylene, polypropylene, ethylene-propylene-diene terpolymer, fluorine-containing polyvinylidene, and copolymers of ethylene and vinyl acetate, either alone or in a mixture.

5. (Previously Presented) The method according to claim 1, characterized in that the insulating polymer is a thermosetting resin selected from the group consisting of polyesters, epoxy resins and phenol resins.

6. (Previously Presented) The method according to claim 1, characterized in that the conducting polymer has a conductivity of at least approximately $10^{-6} \text{ S.cm}^{-1}$.

7. (Previously Presented) The method according to claim 6, characterized in that the conducting polymer is a conducting polymer grafted onto an insulating polymer, or is a copolymer containing at least one conjugate system.

8. (Previously Presented) The method according to claim 6, characterized in that the conducting polymer is selected from the group consisting of polythiophene, polyalkylthiophenes, polyaniline, polypyrrole, polyacetylene, polyparaphenylene, and mixtures thereof.

9. (Previously Presented) A material obtained with the method according to any one of claims 1 to 8.

10. (Previously Presented) A method of using the insulating material having improved thermal resistance obtained with the method according to any of claims 1 to 8, for the manufacture of high and/or very high voltage cables.

11. (Currently amended) The material having improved resistance to thermal ageing according to claim 16, characterized in that the insulating polymer is a thermoplastic resin selected from the group consisting of acrylic, styrene, vinyl resins, cellulose resins, polyolefins, fluorine-containing polymers, polyethers, polyimides, polycarbonates, polyurethanes, silicones, and mixtures of homopolymers and copolymers thereof.

Application Serial No. 09/786,985

Atty. Docket No. 025219-317

12. (Previously Presented) The material having improved resistance to thermal ageing according to claim 16, characterized in that the insulating polymer is selected from the group consisting of polyethylene, low density polyethylene, high density polyethylene, linear low density polyethylene, polypropylene, ethylene-propylene-diene terpolymer, fluorine-containing polyvinylidene, ethylene butacrylate and copolymers of ethylene and vinyl acetate, either alone or in a mixture.'

13. (Currently amended) The material having improved resistance to thermal ageing according to claim 16, characterized in that the insulating polymer is a thermosetting resins resin, selected from the group consisting of polyesters, epoxy resins and phenol resins.

14. (Previously Presented) The material having improved resistance to thermal ageing according to claim 16, characterized in that the conducting polymer has a conductivity of at least approximately $10^{-6} \text{ S.cm}^{-1}$.

15. Canceled

16. (Previously Presented) An insulating material having improved resistance to thermal ageing, containing 10 to 5000 ppm of a conducting polymer dispersed in or on an insulating polymer and wherein said insulating material shows no heterogeneity on a scale of $0.1 \mu\text{m}$, as observed under scanning electron microscopy.

17. Canceled

18. (Previously Presented) The material having improved resistance to thermal ageing according to claim 14, characterized in that the conducting polymer is selected from the group consisting of polythiophene, the polyalkylthiopenes, polyaniline, poly-pyrrole, polyacetylene, polyparaphenylene, and mixtures thereof.

Please add new claim 19:

19. (New) A process of manufacturing high or very high voltage cable comprising successively coating a conductor core with

Application Serial No. 09/786,985

Atty. Docket No. 025219-317

- 1) an inner semiconductor shield;
- 2) an insulating material having improved resistance to thermal ageing containing 10 to 5000 ppm of a conducting polymer dispersed in or on an insulating polymer wherein said insulating material shows no heterogeneity on a scale of 0.1 μm , as observed under scanning electron microscopy;
- 3) an outer semiconductor shield; and
- 4) a protective sheath.